



STATE OF TENNESSEE  
**DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
**DIVISION OF AIR POLLUTION CONTROL**

9th Floor, L & C Annex  
401 Church Street  
Nashville, Tennessee 37243-1531

November 9, 2009

Ms. Leslie Nale, Plant Manager  
Tennessee Valley Authority  
Kingston Fossil Plant  
714 Swan Pond Road  
Harriman, Tennessee 37748

Reference Number: 73-0013-01-09-S4

Dear Ms. Nale:

The purpose of this letter is to acknowledge receipt of and to respond to the quarterly report of excess opacity measurements from Stack #1 (Units #1 - #5) and Stack #2 (Units #6 - #9) of the Tennessee Valley Authority Kingston Fossil Plant. The submitted report addresses data for the third quarter of 2009. The letter also responds to the TVA root cause analysis of the stack deposition incident occurring on or about September 18, 2009.

The Division's assessment of the opacity monitoring report indicated that each opacity monitoring system achieved the required ninety-five (95) percent operational availability level for each month of data addressed.

The assessment of the data shows that excess opacity measurements occurred for 0.20 percent of the time for Stack #1 and occurred for 0.09 percent of the time for Stack #2 for the third quarter of 2009. These levels of excess measurements are indicative of good operational and maintenance practices for the particulate control equipment. It should be noted that the excess measurements recorded during startups, shutdowns, and malfunctions were not included in this calculation because they are specifically excluded by regulation and the permit.

Based on the assessment of reported opacity measurements, knowledge of the operation and maintenance of the particulate control equipment at the fuel burning installation, and other relevant information, the Division concludes that good operational and maintenance practices have been followed during the use of typical coals at the facility.

In making this determination consideration was given to the more permissive opacity limits granted by Board Order No. 09-007, which was approved by the Tennessee Air Pollution Control Board on August 12, 2009. This board order allowed for a higher opacity limit during time periods of trial burns to evaluate sulfur trioxide mitigation options and other operational issues utilizing higher sulfur coal types in preparation for the startup of the limestone scrubbers currently under construction. For Stack No. 1 opacity values of greater than twenty percent opacity were noted from September 13 through September 19 during such a trial. Given that the increased opacity values were within the limits specified by the board order for such trials, the emission values greater than twenty percent opacity during this time period are not considered as being excess emissions and are not included in the above calculation. An evaluation of all data revealed that even without this variance, compliance with the underlying opacity requirements was achieved for the third quarter of 2009.

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Opacity 3<sup>rd</sup> qtr 2009

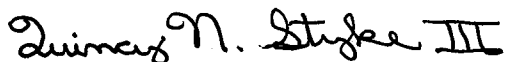
In addition, the Division has reviewed the "Event Analysis - Kingston Fossil Plant Ash Deposition Incident September 18, 2009" report and considers it to be a plausible explanation of the cause of the September 18, 2009 incident. The particles involved in the September 18, 2009 incident were "flake like" in composition. They were so large that they could not remain airborne once they were beyond the confined upward air flow condition that existed inside the stack and fall outside the accepted definition of inhalable or respirable particulate air pollution. However, that is not to say that these large flakes are not a concern to the community and to the Division. A review of the opacity monitoring data for the time frame of the incident showed decreased opacity levels from those reported earlier during the trial burn. This was not unexpected since in-stack opacity monitoring systems are designed to address micron size particles that are uniformly distributed across the monitor pathlength. Given that two-thirds of the stack height lies above the plane of the in-stack opacity monitoring system and that even if the material flaking occurred below the plane of the in-stack opacity monitoring system, the material released would most likely form a ring close to the stack wall and the particles would not be evenly distributed across the stack, thus evading detection by the monitor's beam path. Also, in-stack opacity monitoring systems will respond poorly to the extremely large size of the particles involved in the September 18, 2009 incident.

Much has been learned from the root cause analysis. The Division expects TVA to have learned from this incident and to take special precautions at all of its Tennessee plants when starting up a multi-unit stack that has been operated at reduced capacity for a protracted period of time. While this incident did not violate any current regulatory requirements, it will factor significantly in the review of any future variance requests that involve testing alternate coals.

As the Division recommends to all of the entities it regulates, you should at all times try to be a good neighbor and "make things right" when something air quality wise goes wrong. We understand you have been cleaning up the mess created by this incident and appreciate your cooperation.

Should you have any questions concerning the evaluation of this report, please contact either Ms. Erin Tays at (615) 532-0597 or me at (615) 532-0562.

Sincerely,



Quincy N. Styke III  
Deputy Director  
Division of Air Pollution Control

c: Knoxville- EFO

Mr. Brian S. Fowler, TVA Manager Permitting and Compliance